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A NEW SPECIES OF *VIGUIERA* (SUBGENUS *AMPHILEPIS*) FROM MEXICO, WITH OBSERVATIONS ON ITS RELATIONSHIP TO THE GENUS *TITHONIA* (ASTERACEAE)

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ABSTRACT

A new species, ***Viguiera ayutlana*** B.L. Turner, is described from Jalisco, México. It apparently belongs to the subgenus *Amphilepis* of *Viguiera* but shares one or more characters with the genus *Tithonia*, suggesting that these two taxa are very closely related, if not the same.

KEY WORDS: Asteraceae, Heliantheae, *Viguiera*, *Tithonia*, México, systematics

Preparation of a treatment of the Heliantheae of México has occasioned the present paper.

VIGUIERA AYUTLANA B.L. Turner, *spec. nov.* TYPE: MEXICO. Jalisco: "Roadsides at edge of cornfield in fir forest area about 28 road miles west of Ayutla, and about 70 miles northwest of Autlan", ca. 6700 ft, 3 Nov 1962, *A. Cronquist 9791* (HOLOTYPE: TEX!).

Similis *V. excelsae* (*V. excelsa*) (Willd.) Benth. & Hook., sed pedunculis valde fistulosis tantum sub capitulis et receptaculis valde conicis (vice receptaculorum convexorum).

Shrub ca. 2 m high. Stems purplish, moderately to sparsely hirsute with bent hairs 0.8-1.5 mm long. Leaves alternate, those on primary stems mostly 15-30 cm long, 4.5-12.0 cm wide; petioles 1.5-4.0 cm long, gradually tapering upon the blades; blades ovate to ovate-elliptic, moderately pubescent above and below, the lower surfaces prominently 3-nervate somewhat above the base, the margins crenate. Heads mostly single and axillary along the upper stems, 6-8 cm across the extended rays. Peduncles 4-14 cm long, markedly swollen and fistulose just below the heads. Involucres hemispheric, 12-14 mm high, ca. 30 mm wide (pressed), the bracts 3-4 seriate, graduate, broadly ovate to broadly elliptic, the inner series loose and somewhat

Figure 1. *Viguiera ayutlana*, from holotype.

scarious with broadly rounded apices, the margins weakly ciliate. Receptacle conical, 3-4 mm high, 2-3 mm across; bracts linear-oblanceolate, shorter than the subtended florets, their apices cuspidate. Ray florets 13-18, neuter, sterile; ligules yellow 25-32 mm long, 5-9 mm wide, 16-21 nervate, the apices inconspicuously 2-3 lobed. Disk florets numerous, perfect, fertile; corollas yellow, ca. 4 mm long; tube ca. 1 mm long; limb ca. 3 mm long, markedly pubescent at its base, the lobes ca. 0.8 mm long. Anthers black, the apices ovate. Style branches flat, their apices ovate, glabrous. Achenes radially compressed, ca. 3 mm long, 1.3 mm wide, black, the pappus of 2 lateral awns 1-2 mm long, between these 4-6 fimbriate scales ca. 1 mm long.

Cronquist, who collected type material, identified this taxon as "*Viguiera* aff. *excelsa* (Willd.) Benth. & Hook.", which it superficially resembles. Upon first examining the holotype (in 1987) I annotated this as a possible hybrid between *Viguiera hypochlora* S.F. Blake and some species of *Tithonia*. La Duke (by annotation, 1980), having examined this in connection with his treatment of *Tithonia*, took the plant to be an "unusual" collection of *V. excelsa*. It is an enigmatic collection, for it has enlarged fistulose peduncles like those of *Tithonia*; achenes with a pappus like those of *Viguiera*; receptacular bracts like *Tithonia*; but a markedly conical receptacle, unlike either of the two genera. In the former characters it more or less bridges the gap between *Tithonia* and subgenus *Amphilepis* of *Viguiera* and almost certainly argues for a close relationship of these two taxa. In this connection it must be noted that John Strother recently called to my attention that *Viguiera subcanescens* S.F. Blake of the subgenus *Amphilepis* is almost certainly a synonym of *Tithonia longiradiata* (Bertol.) S.F. Blake, this not accounted for by La Duke in his revisionary study. Finally, there is a remarkable resemblance of the leaves, achenes, and corolla of the latter with *Viguiera ayutlana* (*cf.* Figures 52-54 in La Duke 1982); no doubt the presence of a viguieroid pappus keeps the latter out of *Tithonia*.

Viguiera (s.l.) is in much need of detailed DNA study and I surmise that it will have to ultimately include *Tithonia*, unless drastic generic splintering of the complex is preferred, in which case it is still likely that *Amphilepis* will reside within, or next to, *Tithonia*.

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LITERATURE CITED

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